

IN THE CLAIMS

Please cancel claim 49 without prejudice or disclaimer as follows:

1           1. (Previously Presented) An electrophotographic image printing method for an  
2       electrophotographic imaging apparatus, comprising the steps of:  
3           providing an electrophotographic imaging apparatus, the electrophotographic imaging  
4       apparatus including: a charge roller; a developer roller; a laser scanning unit; a transfer  
5       roller; an organic photoconductor; a power supply unit for supplying power to the charge  
6       roller, the developer roller, the laser scanning unit, and the transfer roller; and a controller  
7       for controlling the power supply unit, the charge roller, the developer roller, the laser  
8       scanning unit, the transfer roller, and the organic photoconductor;  
9           selecting a resolution for electrophotographic printing;  
10          charging the organic photoconductor by selectively applying, to the charge roller, a  
11       charge voltage corresponding to the resolution selected for the electrophotographic printing;  
12          setting the charge voltage applied to the charge roller to be relatively higher in  
13       magnitude for a lower level of the resolution selected than for a higher level of the resolution  
14       selected;  
15          forming an electrostatic latent image on the charged organic photoconductor by means  
16       of the laser scanning unit and applying toner particles adhering to the developer roller to the  
17       electrostatic latent image to form a visible image; and  
18          transferring the visible image formed on the organic photoconductor to a print  
19       medium.

Claim 2. (Canceled)

1           3. (Previously Presented) The method of claim 1, wherein the resolution selected is  
2 any one of 600 dpi. and 1200 dpi.

1           4. (Previously Presented) The method of claim 1, wherein a charge voltage of -1.35  
2 kV is applied to the charge roller as the charge voltage when the resolution selected is 1200  
3 dpi., and a charge voltage of -1.4 kV is applied to the charge roller as the charge voltage  
4 when the selected resolution is 600 dpi.

1           5. (Original) The method of claim 1, wherein the charge voltage is selectively applied  
2 to the charge roller to reduce a gray pattern level variation.

1           6. (Amended) An electrophotographic printing method for an electrophotographic  
2 imaging apparatus, comprising the steps of:

3           providing an electrophotographic imaging apparatus, the electrophotographic imaging  
4 apparatus including: a charge roller; a developer roller; a laser scanning unit; a transfer  
5 roller; an organic photoconductor; a power supply unit for supplying power to the charge  
6 roller, the developer roller, the laser scanning unit, and the transfer roller; and a controller  
7 for controlling the power supply unit, the charge roller, the developer roller, the laser  
8 scanning unit, the transfer roller, and the organic photoconductor;

9           selecting a resolution for electrophotographic printing;  
10           charging the organic photoconductor by selectively applying, to the charge roller, a  
11 charge voltage corresponding to the resolution selected for the electrophotographic printing;  
12           forming an electrostatic latent image on the charged organic photoconductor by means  
13 of the laser scanning unit and applying toner particles adhering to the developer roller to the  
14 electrostatic latent image to form a visible image; and  
15           transferring the visible image formed on the organic photoconductor to a print  
16 medium;  
17           wherein a gray pattern level variation at a low resolution is reduced by applying a  
18 charge voltage to the charge roller that is relatively large in magnitude relative to a charge  
19 voltage applied to the charge roller to reduce the gray pattern level variation at a high  
20 resolution.

1           7. (Previously Presented) The method of claim 1, further comprising the step of:  
2           selectively adjusting the charge voltage applied to the charge roller in correspondence  
3 to the resolution selected for the electrophotographic printing to reduce image concentration  
4 variation.

1           8. (Previously Presented) An electrophotographic printing method for an  
2 electrophotographic imaging apparatus, comprising the steps of:  
3           providing an electrophotographic imaging apparatus, the electrophotographic imaging  
4 apparatus including: a charge roller; a developer roller; a laser scanning unit; a transfer

5 roller; an organic photoconductor; a power supply unit for supplying power to the charge  
6 roller, the developer roller, the laser scanning unit, and the transfer roller; and a controller  
7 for controlling the power supply unit, the charge roller, the developer roller, the laser  
8 scanning unit, the transfer roller, and the organic photoconductor;

9 selecting a print mode for electrophotographic printing;

10 charging the organic photoconductor by selectively applying, to the charge roller, a  
11 charge voltage having a magnitude which is dependent upon the print mode selected for the  
12 electrophotographic printing;

13 forming an electrostatic latent image on the charged organic photoconductor by means  
14 of the laser scanning unit and applying toner particles adhering to the developer roller to the  
15 electrostatic latent image to form a visible image; and

16 transferring the visible image formed on the organic photoconductor to a print  
17 medium;

18 wherein a charge voltage of -1.4 kV is applied to the charge roller as the charge  
19 voltage when the print mode selected is a text mode, and a charge voltage of -1.35 kV is  
20 applied to the charge roller as the charge voltage when the print mode selected is a graphics  
21 mode.

1 9. (Previously Presented) The electrophotographic printing method of claim 8, the  
2 voltage magnitude applied to the charge roller having a relatively higher magnitude when a  
3 text mode is selected as the print mode than when a graphics mode is selected as the print  
4 mode.

1           10. (Previously Presented) The method of claim 8, the print mode selected  
2           corresponding to one of a text mode and a graphics mode.

1           11. (Previously Presented) The method of claim 10, the text mode being of a  
2           relatively lower resolution than a resolution for the graphics mode.

Claim 12. (Canceled)

1           13. (Previously Presented) The method of claim 8, wherein it is a DC magnitude of  
2           voltage and not an AC magnitude of voltage applied to the charge roller that is varied and  
3           dependent upon the selected print mode.

1           14. (Previously Presented) An electrophotographic printing method for an  
2           electrophotographic imaging apparatus, comprising the steps of:

3           providing an electrophotographic imaging apparatus, the electrophotographic imaging  
4           apparatus including: a charge roller; a developer roller; a laser scanning unit; a transfer  
5           roller; an organic photoconductor; a power supply unit for supplying power to the charge  
6           roller, the developer roller, the laser scanning unit, and the transfer roller; and a controller  
7           for controlling the power supply unit, the charge roller, the developer roller, the laser  
8           scanning unit, the transfer roller, and the organic photoconductor;

9           selecting a print mode for electrophotographic printing;

10 charging the organic photoconductor by selectively applying, to the charge roller, a  
11 charge voltage having a magnitude which is dependent upon the print mode selected for the  
12 electrophotographic printing;

13 forming an electrostatic latent image on the charged organic photoconductor by means  
14 of the laser scanning unit and applying toner particles adhering to the developer roller to the  
15 electrostatic latent image to form a visible image; and

16 transferring the visible image formed on the organic photoconductor to a print  
17 medium;

18 wherein a gray pattern level variation at a low resolution is reduced by applying a  
19 charge voltage to the charge roller that is relatively large in magnitude relative to a charge  
20 voltage applied to the charge roller to reduce the gray pattern level variation at a high  
21 resolution.

1 15.(Previously Presented) The method of claim 8, further comprising the step of:  
2 selectively adjusting the charge voltage applied to the charge roller in correspondence  
3 to the print mode selected for the electrophotographic printing to reduce image concentration  
4 variation.

1 16. (Previously Presented) An electrophotographic imaging apparatus for —  
2 electrophotographic printing, comprising:  
3 a charge roller;  
4 a developer roller;

5           a laser scanning unit;  
6           a transfer roller;  
7           an organic photoconductor;  
8           a power supply unit for supplying power to the charge roller, the developer roller, the  
9 laser scanning unit, and the transfer roller;  
10          a controller for controlling the power supply unit, the charge roller, the developer  
11 roller, the laser scanning unit, the transfer roller, and the organic photoconductor;  
12          means for selecting a resolution for electrophotographic printing;  
13          means for selectively applying, to the charge roller, a charge voltage so as to charge  
14 the organic photoconductor, the charge voltage corresponding to the resolution selected for  
15 the electrophotographic printing;  
16          means for forming an electrostatic latent image on the charged organic  
17 photoconductor, and for applying toner particles adhering to the developer roller to the  
18 electrostatic latent image to form a visible image; and  
19          means for transferring the visible image formed on the organic photoconductor to a  
20 print medium;  
21          wherein the charge voltage selectively applied to the charge roller is relatively large  
22 in magnitude for a lower level of the selected resolution and is relatively small in magnitude  
23 for a higher level of the selected resolution.

Claims 17-18. (Canceled)

1           19. (Previously Presented) The electrophotographic imaging apparatus of claim 16,  
2 wherein a charge voltage of -1.35 kV is applied to the charge roller as the charge voltage  
3 when the resolution selected is 1200 dpi., and a charge voltage of -1.4 kV is applied to the  
4 charge roller as the charge voltage when the resolution selected is 600 dpi.

1           20. (Previously Presented) The electrophotographic printing apparatus of claim 16,  
2 wherein one of -1.4kV and -1.35kV is selectively applied to the charge roller as the charge  
3 voltage.

1           21. (Previously Presented) An electrophotographic imaging apparatus for  
2 electrophotographic printing, comprising:

3           a charge roller;  
4           a developer roller;  
5           a laser scanning unit;  
6           a transfer roller;  
7           an organic photoconductor, said organic photoconductor being charged by said charge  
8 roller;  
9           an input unit for input of a print job, and for input of a print mode for said print job;  
10          a power supply unit supplying power to the charge roller, the developer roller, the  
11 laser scanning unit, and the transfer roller; and  
12          a controller connected to said input unit and said power supply unit, said controller  
13 being programmed and configured to control the power supply unit, the charge roller, the



14 developer roller, the laser scanning unit, the transfer roller, and the organic photoconductor,  
15 said controller being programmed and configured to cause said power supply unit to apply  
16 one of a first voltage having a first magnitude and a second voltage having a second,  
17 different magnitude to said charge roller based on a selected print mode for said print job,  
18 said laser scanning unit illuminating said organic photoconductor to form an electrostatic  
19 latent image on the charged organic photoconductor, said developer roller applying toner  
20 particles to the electrostatic latent image on the organic photoconductor to form a visible  
21 image on the organic photoconductor, said transfer roller transferring the visible image  
22 formed on the organic photoconductor to a print medium;

23 wherein the power supply unit selectively charges the charge roller with a charge  
24 voltage that is relatively high in magnitude when said selected print mode is text mode and  
25 relatively low in magnitude when said selected print mode is graphics mode.

Claims 22 and 23. (Canceled)

1 24. (Previously Presented) The electrophotographic imaging apparatus of claim 21,  
2 wherein the power supply unit applies, to the charge roller, a charge voltage of -1.35 kV DC  
3 as the first voltage magnitude when the print mode selected is the graphics mode, and the  
4 power supply unit applies, to the charge roller, a charge voltage of -1.4 kV DC as the second  
5 voltage magnitude when the print mode selected is the text mode.

1 25. (Previously Presented) The electrophotographic printing apparatus of claim 21,

2 said controller being programmed and configured to cause said laser scanning unit to  
3 illuminate said organic photoconductor to form said latent image on said organic  
4 photoconductor at one of a first power and a second and different power based on the print  
5 mode selected.

1 26. (Previously Presented) The method of claim 1, wherein, during the charging step,  
2 said controller and said power supply unit automatically apply a different magnitude of DC  
3 voltage to said charge roller based on said selected resolution immediately prior to and  
4 during the formation of said electrostatic image on said organic photoconductor.

1 27. (Previously Presented) The method of claim 26, said laser scanning unit  
2 automatically applying a different power during said forming step based on said magnitude  
3 of said voltage applied to said charge roller.

1 28. (Previously Presented) The method of claim 8, wherein, during the charging step,  
2 said controller and said power supply unit automatically apply a different magnitude of  
3 voltage to said charge roller based on said selected print mode immediately prior to and  
4 during the formation of said electrostatic image on said organic photoconductor.

1 29. (Previously Presented) The method of claim 28, said laser scanning unit  
2 automatically applying a different power during said forming step based on said magnitude  
3 of said voltage applied to said charge roller.

1           30. (Previously Presented) The apparatus of claim 16, wherein said controller and  
2           said power supply unit automatically apply a voltage of a different magnitude to said charge  
3           roller based on said selected resolution immediately prior to and during the formation of said  
4           electrostatic image on said organic photoconductor.

1           31. (Previously Presented) The apparatus of claim 30, said laser scanning unit  
2           automatically applying a different power during said forming of said latent image based on  
3           said magnitude of said voltage applied to said charge roller.

Claim 32. (Canceled)

1           33. (Previously Presented) The apparatus of claim 26, said laser scanning unit  
2           automatically applying a different power during said forming of said latent image based on  
3           said magnitude of said voltage applied to said charge roller.

1           34. (Previously Presented) A method for forming an image in an electrophotographic  
2           apparatus, said method comprising the steps of:

3                 submitting a print job from a user via software, said print job comprising a type of  
4                 print job selected by said user;

5                 automatically charging a charge roller to a magnitude of voltage based on the type of  
6                 print job selected by the user prior to printing;

7           charging an organic photoconductor drum via said charge roller;  
8           forming a latent image on said photoconductor drum by illuminating said  
9 photoconductor drum via a light source, a power of said light source forming the latent image  
10 being based on the magnitude of voltage to which said charge roller is charged; and  
11           creating a visible image from said latent image via a developer roller positioned  
12 adjacent to said photoconductor drum, said developer roller supplying toner particles to said  
13 photoconductor drum to convert said latent image on said photoconductor drum into said  
14 visible image; and  
15           transferring the visible image to a print medium;  
16           wherein, when the type of print job is a resolution of the print job, the magnitude of  
17 voltage to which said charge roller is charged is greater for a lower resolution and smaller  
18 for a higher resolution.

Claims 35-37. (Canceled)

1           38. (Previously Presented) The method of claim 34, wherein said controller causes  
2 said light source to operate at an appropriate power level based on the magnitude of voltage  
3 applied to said charge roller.

Claims 39-41. (Canceled)

1           42. (Previously Presented) An electrophotographic imaging apparatus for

electrophotographic printing, comprising:

a charge roller;

a developer roller;

a laser scanning unit;

a transfer roller;

a photoconductive drum, said photoconductive drum being charged by said charge roller, said laser scanning unit illuminating said photoconductive drum to form a latent image on said photoconductive drum, and said charge roller, said developer roller, said transfer roller and said laser scanning unit being disposed in operational relationship to said photoconductive drum;

an input unit for inputting a print job and selecting a print mode for said print job;

a power supply unit for supplying power to the charge roller, the developer roller, the laser scanning unit, and the transfer roller; and

a controller connected between said input unit and said power supply, said controller being programmed and configured to control the power supply unit and cause said power supply to apply one of a first DC voltage magnitude and a second and different DC voltage magnitude to said charge roller based on said selected print mode for said print job, said laser scanning unit illuminating said photoconductive drum to form an electrostatic latent image on the charged photoconductive drum, said developer roller applying toner particles to the electrostatic latent image on the photoconductive drum to form a visible image on the photoconductive drum, said transfer roller transferring the visible image formed on the photoconductive drum to a print medium;

24 wherein the power supply unit selectively charges the charge roller with a charge  
25 voltage that is relatively high in DC magnitude when said selected print mode is text mode,  
26 and with a charge voltage which is relatively low when said print mode is graphics mode.

Claim 43. (Canceled)

1 44. (Previously Presented) The electrophotographic imaging apparatus of claim 42,  
2 wherein the power supply unit applies, to the charge roller, a charge voltage of -1.35 kV DC  
3 when the selected print mode is the graphics mode, and the power supply unit applies, to the  
4 charge roller, a charge voltage of -1.4 kV DC when the selected print mode is the text mode.

Claims 45-47. (Canceled)

1 48. (Previously Presented) A method for forming an image in an electrophotographic  
2 apparatus, said method comprising the steps of:

3 submitting a print job from a user via software, said print job comprising a type of  
4 print job selected by said user;

5 automatically charging a charge roller to a magnitude of voltage based on the type of  
6 print job selected by the user prior to printing;

7 charging an organic photoconductor drum via said charge roller;

8 forming a latent image on said photoconductor drum by illuminating said  
9 photoconductor drum via a light source, a power of said light source forming the latent image

10 being based on the magnitude of voltage to which said charge roller is charged; and  
11 creating a visible image from said latent image via a developer roller positioned  
12 adjacent to said photoconductor drum, said developer roller supplying toner particles to said  
13 photoconductor drum to convert said latent image on said photoconductor drum into said  
14 visible image; and  
15 transferring the visible image to a print medium;  
16 wherein, when the type of print job is a selection between a text mode and a graphics  
17 mode, the magnitude of voltage to which said charge roller is charged is greater for the text  
18 mode and smaller for the graphics mode.

Claim 49. (Canceled)